

**CLAIM SET AS AMENDED:**

1. (Currently Amended) A method for manufacturing a thin film transistor panel, comprising at least ~~the~~ the following steps:

providing a silicon substrate;

forming a transparent insulator on a front surface of said silicon substrate;

forming a plurality of thin film transistor structures and a plurality of corresponding transparent electrodes on said transparent insulator;

forming a black matrix on said plurality of thin film transistor structures;

bonding a transparent substrate onto the front surface of said silicon substrate;

removing said silicon substrate by chemical mechanical polishing or an etching process; and

etching said transparent insulator to expose said plurality of corresponding transparent electrodes.

2. (Previously Amended) A method for manufacturing a thin film transistor panel of claim 1, wherein said transparent insulator is  $\text{SiO}_x$ .

3. (Previously Amended) A method for manufacturing a thin film transistor panel of claim 1, wherein said transparent insulator is  $\text{SiN}_x$ .

4. (Previously Amended) A method for manufacturing a thin film transistor panel of claim 1, wherein the thickness of said transparent insulator is less than 1 micrometer.

**5.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **1**, wherein said transparent electrode is made of indium tin oxide.

**6.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **1**, wherein said transparent substrate is a glass substrate.

**7.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **1**, wherein said transparent substrate is a polymer substrate.

**8.** (Currently Amended) A method for manufacturing a thin film transistor panel of claim **1**, wherein ~~the step of removing~~ said silicon substrate includes chemical mechanical polishing is non-transparent.

**9.** (Currently Amended) A method for manufacturing a thin film transistor panel of claim **1**, ~~wherein the step of removing said silicon substrate~~ includes an etching process further comprising forming metal contacts after said plurality of transparent electrodes are formed.

**10.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **1**, further comprising forming an alignment mark on said transparent insulator.

**11.** (Canceled)

**12.** (Currently Amended) A method for manufacturing a thin film transistor panel of claim **1**, wherein the step of forming said plurality of thin

film transistor structures and said plurality of corresponding transparent electrodes further comprises:

forming a transistor thin film ~~and a transparent electrode~~ on said transparent insulator;

forming a gate insulator covering said transistor thin film and said transparent ~~electrode~~ insulator;

forming a gate electrode on said gate insulator corresponding to a position of said transistor thin film;

forming a transparent electrode on said gate insulator;

forming an interlayer on said gate electrode, said transparent electrode, and said gate insulator;

forming a metal contact layer on said ~~gate insulator~~ interlayer for conduction between the transparent electrode and the transparent thin film; and

forming a passivation layer on said metal contact layer.

**13.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **12**, wherein the transistor thin film is selected from the group consisting of polycrystal silicon(p-Si), polycrystal germanium (p-Ge), polycrystal silicon germanium (p-SiGe), crystal silicon (c-Si), crystal germanium (c-Ge), and crystal silicon germanium (c-SiGe).

**14.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **12**, further comprising forming a color filter on said passivation layer.

**15.** (Currently Amended) A method for manufacturing a thin film transistor panel, comprising at least the following steps:

providing a silicon substrate;

forming a transparent insulator on a front surface of said silicon substrate;

forming a plurality of thin film transistor structures on said transparent insulator;

bonding a transparent substrate onto the front surface of said silicon substrate;

removing said silicon substrate by chemical mechanical polishing or an etching process; and

forming a plurality of transparent electrodes corresponding to said plurality of thin film transistor structures on a bottom surface of said transparent insulator.

**16.** (Previously Amended) A method for forming a thin film transistor panel of claim **15**, wherein said transparent insulator is  $\text{SiO}_x$ .

**17.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **15**, wherein said transparent insulator is  $\text{SiN}_x$ .

**18.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **15**, wherein the thickness of said transparent insulator is less than 1 micrometer.

**19.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **15**, wherein said transparent electrode is made of indium tin oxide.

**20.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **15**, wherein said transparent substrate is a glass substrate.

**21.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **15**, wherein said transparent substrate is a polymer substrate.

**22.** (Currently Amended) A method for manufacturing a thin film transistor panel of claim **15**, wherein ~~the step of removing~~ said silicon substrate ~~includes chemical-mechanical polishing~~ is non-transparent.

**23.** (Canceled)

**24.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **15**, further comprising forming an alignment mark on said transparent insulator.

**25.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **15**, further comprising forming a black matrix on said

plurality of thin film transistor structures before bonding said transparent substrate onto the front surface of said silicon substrate.

**26.** (Currently Amended) A method for manufacturing a thin film transistor panel of claim **15**, wherein the step of forming said plurality of thin film transistor structures and said plurality of corresponding transparent electrodes further comprises:

forming a transistor thin film on said front surface of said transparent insulator;

forming a gate insulator covering said transistor thin film and said plurality of transparent electrodes;

forming a gate electrode on said gate insulator corresponding to a position of said transistor thin film;

forming an interlayer on said gate electrode and said gate insulator;

forming a metal contact layer on said ~~gate insulator~~ interlayer; and

forming a passivation layer on said metal contact layer.

**27.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **26**, wherein said transistor thin film is selected from the group consisting of polycrystal silicon(p-Si), polycrystal germanium (p-Ge), polycrystal silicon germanium (p-SiGe), crystal silicon (c-Si), crystal germanium (c-Ge), and crystal silicon germanium (c-SiGe).

**28.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **15**, further comprising forming a color filter on the

bottom surface of said transparent insulator before forming said transparent electrode.

**29.** (Currently Amended) A method for manufacturing thin film transistor panel, comprising at least the following steps:

providing a silicon substrate;

bonding a transparent substrate onto a back surface of said silicon substrate;

reducing the thickness of said silicon substrate to form a layer of crystal silicon thin film;

forming a plurality of thin film transistor structures on said crystal silicon thin film;

etching said thin film transistor structures and said crystal silicon thin film to form a suitable pixel via;

forming a planarization layer on said thin film transistor structures and said pixel via; and

forming a plurality of transparent electrodes corresponding to the thin film transistor structures on said planarization layer,

wherein the step of forming said thin film transistor structures further comprises:

forming a source region and a drain region on said crystal silicon thin film;

forming a gate insulator on said crystal silicon thin film;

forming a gate electrode on said gate insulator;

forming an interlayer on said gate electrode and said gate insulator; and

forming a metal contact layer on said interlayer.

**30.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **29**, wherein the thickness of said transparent insulator is less than 1 micrometer.

**31.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **29**, wherein said transparent electrode is made of indium tin oxide.

**32.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **29**, wherein said transparent substrate is a glass substrate.

**33.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **29**, wherein said transparent substrate is a polymer substrate.

**34.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **29**, wherein the step of removing said silicon substrate includes chemical mechanical polishing.

**35.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **29**, wherein the step of removing said silicon substrate includes an etching process.

**36.** (Canceled)



**37.** (Previously Amended) A method for manufacturing a thin film transistor panel of claim **29**, wherein the planarization layer is also a color filter.